

REMARKS

This application has been carefully reviewed in light of the Office Action mailed December 8, 2003. Claims 1-12 and 27-36 are pending in the Application. Claim 1 has been amended and Claims 13-26 have been withdrawn. Claims 4 and 5 have been canceled and Claims 37 and 38 have been added. Applicants respectfully request reconsideration and favorable action of all pending claims in view of the following remarks.

Election/Restrictions

Applicants appreciate the Examiner acknowledging Applicants' election without traverse to prosecute Group I (Claims 1-12 and 27-36), which the Examiner defined as claims "drawn to a sensor comprising a chemically-sensitive layer and a piezoresistive material, and a method for using the sensor, classified in class 422, subclass 98".

Section 112 Rejections

The Office Action rejects Claims 1-12 and 27-36 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention. Apparently the Office Action rejects these claims alleging that it is improper to define an invention drawn to an apparatus statutory class of invention through the use of functional limitations. Applicants respectfully traverse this rejection for reasons provided below.

With respect to method Claims 27-36 and as discussed with the Examiner by telephone, this rejection is clearly improper because these method claims are not drawn to an apparatus statutory class of an invention, regardless of whether such a rejection would be proper for apparatus claims. Reconsideration and favorable action are requested.

With respect to the apparatus claims, the portion of the MPEP relied on by the office action for rejecting claims due to the use of functional limitations, MPEP Section 2173.05(g), states that "there is nothing inherently wrong with defining some part of an invention in functional terms" and "a functional limitation must be evaluated and considered, just like any other limitation in the claim." The examples provided in this portion of the MPEP confirm that functional language is not subject to a 112 paragraph 2 rejection where definite boundaries are placed on the patent protection sought, which is the case with the rejected claims because those claims precisely define the limits of the patent protection sought –

whether those limits are defined by functional language does not change this. Nevertheless, in order to expedite prosecution, Applicants have amended Claim 1 to specify particular structural limitations. In particular, the thickness of the chemical sensitive layer is specified. Reconsideration and favorable action are requested.

Section 102 and 103 Rejections

The Office Action rejects Claims 1-9 under 35 U.S.C. § 102(b) as being anticipated over U.S. Pat. No. 5,028,394 to Lowell, Jr. et al ("*Lowell*"), and claims 11 and 12 under 35 U.S.C. § 103. Applicants respectfully traverse these rejections. Apparently in rejecting these claims certain language of the claims was ignored because of the above 112 rejections. This is clear because the associated method claims were indicated to be allowable over the cited references. Applicants contend this is improper because, as described above, the MPEP requires consideration of all claim language, even if that language is deemed functional. Nevertheless, Applicants have amended Claim 1, as described above.

As amended, Claim 1 recites "the chemical sensitive layer having a thickness thin enough such that adsorption of the target matter into the chemical sensitive layer creates an interfacial tension at the interface of the chemical sensitive layer and the piezoresistive material that changes the electrical resistance of the piezoresistive material, but thick enough such that the reaction of the target matter with the chemical sensitive layer does not affect the bulk properties of the chemical sensitive layer enough to change the electrical resistance of the piezoresistive material." This limitation is clearly not present in *Lowell*. As is clear to one of skill in the art, the chemically sensitive layer of *Lowell* is not thin enough to create the claimed interfacial tension (the layer is asserted in the Office Action to be 1-10 mm). The Office Action apparently recognizes this when it states "the cited prior art neither fairly suggests a method of making a sensor that involves the step of coupling a chemical sensitive layer . . . such that the reaction of the target matter with the chemical sensitive layer creates an interfacial tension at the interface" For at least this reason, Claim 1 and the claims depending therefrom are allowable. Favorable action is requested.

In addition to depending from allowable independent Claim 1, Claim 2 is also allowable because it does not appear that *Lowell* detects the rate of change in the electrical resistance, but rather detects an actual change. In particular, Table 1 in column 6 of *Lowell* mentions that the change in electrical resistance is proportional to the change in pH. In contrast, the claim language recites that the electrical circuit is further operable to detect "the

rate of change in the electrical resistance," which in one embodiment is proportional to the concentration of the target matter. For at least this additional reason, Claim 2 is allowable.

In additional to depending from allowable independent Claim 1, Claim 7 is also allowable because it recites "wherein the chemical sensitive layer is a mono-layer." Clearly *Lowell*, which utilizes a layer much larger than a mono-layer, does not teach this limitation, and apparently the Office Action concedes this because it makes no allegation that this limitation is taught (despite rejecting the claims). Reconsideration and favorable action are requested.

Allowable Subject Matter

Applicants appreciate the indication by the Examiner that Claims 10 and 27-36 would be allowable if the asserted 112 rejection were overcome and Claim 10 was rewritten in independent form. Applicants have written Claim 10 in independent form with modifications to address the 112 rejection as new Claim 37 (although Applicants continue to contend that the 112 rejection was improper). As described above, Applicants also contend the 112 rejection of method claims 27-36 based on the grounds that they incorporate functional language into an apparatus statutory class to be clearly incorrect and respectfully submit that these claims are currently allowable. Reconsideration and favorable action are requested.

New Claims

Applicants added new Claims 37 and 38. Claim 37 derives from Claim 10 and is allowable as described above in the "Allowable Subject Matter" section. Claim 38 is believed allowable because the cited references do not teach or suggest "creating, by reaction of the chemical sensitive layer with the target matter, an interfacial tension at an interface of the chemical sensitive layer and a piezoresistive material that changes the electrical resistance of the piezoelectrical material without affecting the bulk properties of the chemical sensitive layer enough to change the electrical resistance of the piezoresistive material." That this limitation is not taught by the cited references is essentially conceded by the Office Action when it states "the cited prior art neither fairly suggests a method of making a sensor that involves the step of coupling a chemical sensitive layer . . . such that the reaction of the target matter with the chemical sensitive layer creates an interfacial tension at the interface"

Information Disclosure Statement

Applicants note that Items O on the Information Disclosure Statement filed November 20, 2002 was not indicated to be considered by the Examiner on the associated PTO Form 1449. Applicants respectfully requests the Examiner to confirm consideration of this document by initialing the appropriate location on the provided PTO Form 1449, which has been amended to correct a typographical error in the original PTO Form 1449. Reconsideration and favorable action are requested.

CONCLUSION

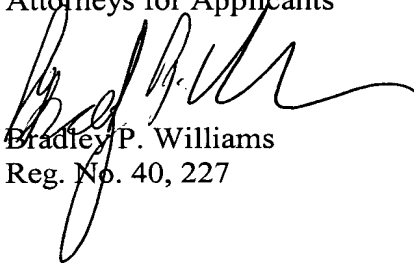
Applicants have now made an earnest attempt to place this case in condition for immediate allowance. For the foregoing reasons and for other apparent reasons, Applicants respectfully request allowance of all pending claims.

If the Examiner feels that prosecution of the present Application may be advanced in any way by a telephone conference, the Examiner is invited to contact the undersigned attorney at 214-953-6447.

Applicants charge the fee of \$86.00 to Deposit Account No. 02-0384 of Baker Botts L.L.P. for adding one additional independent claim. However, the Commissioner is hereby authorized to charge any extra fee or credit any overpayments to Deposit Account No. 02-0384 of Baker Botts L.L.P.

Respectfully submitted,

BAKER BOTTS L.L.P.
Attorneys for Applicants



Bradley P. Williams
Reg. No. 40, 227

Date: April 8, 2004

Correspondence Address:
2001 Ross Avenue, Suite 600
Dallas, Texas 75201-2980
Phone: (214) 953-6447

Customer Number: **05073**